

**NORTH CAROLINA DIVISION OF  
AIR QUALITY**

**Air Permit Review**

**Permit Issue Date: ??**

**Region:** Raleigh Regional Office  
**County:** Halifax  
**NC Facility ID:** 4200007  
**Inspector's Name:** Will Wike  
**Date of Last Inspection:** 06/09/2015  
**Compliance Code:** 3 / Compliance - inspection

<b>Facility Data</b>				<b>Permit Applicability (this application only)</b>			
<b>Applicant (Facility's Name):</b> KapStone Kraft Paper Corporation  <b>Facility Address:</b> KapStone Kraft Paper Corporation 100 Gaston Road Roanoke Rapids, NC 27870  <b>SIC:</b> 2621 / Paper Mills Exc Building Paper <b>NAICS:</b> 322121 / Paper (except Newsprint) Mills  <b>Facility Classification: Before:</b> Title V <b>After:</b> Title V <b>Fee Classification: Before:</b> Title V <b>After:</b> Title V				<b>SIP:</b> <b>NSPS:</b> <b>NESHAP:</b> <b>PSD:</b> <b>PSD Avoidance:</b> <b>NC Toxics:</b> <b>112(r):</b> <b>Other:</b>			
<b>Contact Data</b>				<b>Application Data</b>			
<b>Facility Contact</b>		<b>Authorized Contact</b>		<b>Technical Contact</b>		<b>Application Number:</b> 4200007.15B <b>Date Received:</b> 06/16/2015 <b>Application Type:</b> Modification <b>Application Schedule:</b> TV-Significant <b>Existing Permit Data</b> <b>Existing Permit Number:</b> 01649/T57 <b>Existing Permit Issue Date:</b> 04/06/2016 <b>Existing Permit Expiration Date:</b> 12/31/2017	
Mike Knudson Environmental Manager (252) 533-6280 100 Gaston Road Roanoke Rapids, NC 27870		Wilbur Kessinger, Jr. Vice President of Mill Operations (252) 533-6398 100 Gaston Road Roanoke Rapids, NC 27870		Mike Knudson Environmental Manager (252) 533-6280 100 Gaston Road Roanoke Rapids, NC 27870			
<b>Total Actual emissions in TONS/YEAR:</b>							
CY	SO2	NOX	VOC	CO	PM10	Total HAP	Largest HAP
2014	72.13	1446.35	752.52	773.70	229.76	178.15	134.56 [Methanol (methyl alcohol)]
2013	400.71	1585.29	246.84	728.03	260.73	123.24	81.30 [Methanol (methyl alcohol)]
2012	818.21	1379.46	286.67	689.96	284.10	168.53	127.38 [Methanol (methyl alcohol)]
2011	880.80	1412.92	283.90	569.60	358.42	173.22	132.80 [Methanol (methyl alcohol)]
2010	914.97	1515.68	299.48	598.24	265.90	178.01	136.92 [Methanol (methyl alcohol)]
<b>Review Engineer:</b> Brian Bland  <b>Review Engineer's Signature:</b> _____ <b>Date: ??</b>				<b>Comments / Recommendations:</b> Issue 01649/T58 <b>Permit Issue Date:</b> ??, 2016 <b>Permit Expiration Date:</b> December 31, 2017			

## I. Facility Description

Located in Roanoke Rapids, Halifax County, KapStone Kraft Paper (KapStone) is a pulp and paper mill that manufactures brown paper stock. Brown paper stock is used to make cardboard and shopping bags

## II. Purpose of Application

Application No. 4200007.15B was submitted on June 16, 2015 to modify the permit to allow the combustion of low-volume, high-concentration (LVHC) gases, including stripper offgases (SOG), in the No. 7 Recovery Furnace (ID No. ES-08-PU-012). Under 40 CFR 63, Subpart S, KapStone currently collects these gases for combustion in the Lime Kiln (ID No. ES-09-PU-004) or the No. 1 Power Boiler ID (No. ES-11-CU-001).

Additionally, this application requested a revision to the tune-up frequency, from annually to every five years, for No. 4 Package Boiler (ID No. ES-11-CU-035) because it uses an automatic oxygen trim system to maintain excess air at the desired level.

This proposed modification constitutes a significant modification of the Title V Air Quality Permit. The application will be processed using the one-step significant modification procedures pursuant to 15A NCAC 02Q .0501(d)(2).

As requested by Kapstone on March 30, 2016, the request to modify the permit allow the combustion of LVHC gases in the No. 7 Recovery Furnace was withdrawn from the application. The remainder of the application will be processed.

## III. Application Chronology

June 16, 2015	DAQ receives Permit Application No. 4200007.15B.
March 9, 2016	Additional information request sent to KapStone requesting clarification of modification exemption claimed for NSPS Subpart BB and inclusion of CO <sub>2</sub> e emissions in PSD SER table.
March 15, 2016	Teleconference with Brad Justus of AECOM regarding the NSPS modification exemptions 40 CFR 60.14(e).
March 24, 2016	Notice sent that DAQ doesn't believe the cited NSPS modification exemption applies to the proposed project.
March 30, 2016	Request received from Kapstone to withdraw the combustion of LVHC gases in the No. 7 Recovery Furnace portion of the application.
April 6, 2016	Draft permit forwarded to Michael Knudson of KapStone
April 7, 2016	Draft permit and review document forwarded to Raleigh Regional Office (RRO) and Samir Parekh (SSCB) for comments.
April 8, 2016	Michael Knudson, via telephone, conveys a couple minor comments on the draft. Both were incorporated in to the permit.
April 12, 2016	Charles McEachern comments that the RRO recommends issuance of the permit.
??, 2016	Draft permit sent to public notice and EPA review.
??, 2016	Public comment period ends. No adverse comments were received.
??, 2016	EPA comment period ends. No adverse comments were received.

#### IV. Changes to Existing Air Permit

Page(s)	Section	Description of Change(s)
All	All	Update dates and permit revision number
3 – end	All	Update permit revision number in header
47	2.1 K.6.c	Change tune-up requirement from annually to every five years.  Correct related CFR citations.
48	2.1 K.6.d	Specify that tune-ups must be performed no more than 61 (not 13) months from the previous tune-up
48	2.1 K.6.h	Change reporting requirement from annually to every five years

#### V. Compliance Status

On June 9, 2015 the facility was inspected by Mr. Will Wike of the RRO and KapStone appeared to be operating in compliance with all permit requirements.

#### VI. Regulatory Review

Halifax County has been triggered for PSD increment tracking for PM<sub>10</sub>, SO<sub>2</sub> and NO<sub>x</sub>, but no tracking is necessary for this application as there is no change in emissions.

##### No. 4 Package Boiler

Because the No. 4 Package Boiler (ID No. ES-11-CU-035) is subject to 40 CFR Part 63, Subpart DDDDD (Boiler MACT) and currently classified in the gas 1 subcategory (as defined in 40 CFR 63.7575), it is subject to work practice requirements. Pursuant to NESHAP Subpart DDDDD, Sections 2.1 K. 6. c and d of the air permit currently require KapStone to conduct annual (within thirteen months of the previous tune-up) boiler tune-ups.

[All references are from NESHAP Subpart DDDDD with underlining added]

40 CFR 63.7540(a)(10), cited in the current air permit, states in part:

*“If your boiler or process heater has a heat input capacity of 10 million Btu per hour or greater, you must conduct an annual tune-up of the boiler or process heater to demonstrate continuous compliance as specified in paragraphs (a)(10)(i) through (vi) of this section. You must conduct the tune-up while burning the type of fuel (or fuels in case of units that routinely burn a mixture) that provided the majority of the heat input to the boiler or process heater over the 12 months prior to the tune-up. This frequency does not apply to limited-use boilers and process heaters, as defined in §63.7575, or units with continuous oxygen trim systems that maintain an optimum air to fuel ratio.”*

While 40 CFR 63.7540(a)(12) states:

*“If your boiler or process heater has a continuous oxygen trim system that maintains an optimum air to fuel ratio, or a heat input capacity of less than or equal to 5 million Btu per hour and the unit is in the units designed to burn gas 1; units designed to burn gas 2 (other); or units designed to burn light liquid subcategories, or meets the definition of limited-use boiler or process heater in §63.7575, you must conduct a tune-up of the boiler or process heater every 5 years as specified in paragraphs (a)(10)(i) through (vi) of this section to demonstrate continuous compliance. You may delay the burner inspection specified in paragraph (a)(10)(i) of this section until the next scheduled or unscheduled unit shutdown, but you must inspect each burner at least once every 72 months. If an oxygen trim system is utilized on a unit without emission standards to reduce the tune-up frequency to once every 5 years, set the oxygen level no lower than the oxygen concentration measured during the most recent tune-up.”*

The application states “No. 4 Package Boiler has an oxygen trim system which meets the 40 CFR 63.7575 definition:

*a system of monitors that is used to maintain excess air at the desired level in a combustion device. A typical system consists of a flue gas oxygen and/or CO monitor that automatically provides a feedback signal to the combustion air controller.*

The No. 4 Package Boiler oxygen trim system is used to maintain an optimum air to fuel ratio and help minimize NOx emissions.”

Therefore, the air permit will be updated to specify the tune-up frequency required by 40 CFR 63.7540(a)(12), and as discussed in 40 CFR 63.7515(d):

*“If you are required to meet an applicable tune-up work practice standard, you must conduct an annual, biennial, or 5-year performance tune-up according to §63.7540(a)(10), (11), or (12), respectively. Each annual tune-up specified in §63.7540(a)(10) must be no more than 13 months after the previous tune-up. Each biennial tune-up specified in §63.7540(a)(11) must be conducted no more than 25 months after the previous tune-up. Each 5-year tune-up specified in §63.7540(a)(12) must be conducted no more than 61 months after the previous tune-up. For a new or reconstructed affected source (as defined in §63.7490), the first annual, biennial, or 5-year tune-up must be no later than 13 months, 25 months, or 61 months, respectively, after April 1, 2013 or the initial startup of the new or reconstructed affected source, whichever is later.”*

## **VII. Recent Permit History**

April 6, 2016 - Permit No. 01649T57 issued pursuant to Application No. 4200007.15E to revise the monitoring required for compliance with the existing No. 7 Recovery Furnace BACT limits.

March 8, 2016 - Permit No. 01649T56 issued pursuant to Application No. 4200007.15D. The purpose of this application was to reconfigure the woodyard.

August 27, 2015 - Permit No. 01649T55 issued pursuant to Application Nos. 4200007.14B, 4200007.14C and 4200007.15A. The purpose of this application was to: revise the minimum flow rate of the two scrubbers installed on No. 1 Power Boiler (.14B), update the PSD Avoidance Condition pH-SO<sub>2</sub> removal efficiencies emission factors (.14C), and remove the CAIR NOx limit from the air permit is based on the reversal of the vacature of the Cross-State Air Pollution Rule (CSAPR) rule (.15A).

September 4, 2013 - Permit No. 01649T54 issued pursuant to Application No. 4200007.13B. This permitting event was a 02Q .0501(d)(1) modification to the existing Title V permit, and thus satisfying the requirements both in 15A NCAC 02D .0530 "Prevention of Significant Deterioration" and 15A NCAC 02Q .0500 "Title V Procedures".

January 10, 2013 - Permit No. 01649T53 issued pursuant to Application No. 4200007.11A. This application was for the renewal of KapStone's Title V air quality permit.

June 14, 2012 - Permit No. 01649T52 issued pursuant to Application No. 4200007.12A. The purpose of this application was to install a temporary enclosed flare.

April 30, 2012 - Permit No. 01649T51 issued pursuant to Application No. 4200007.12B. The purpose of this application was a minor modification to increase pulp and paper production capacity through mechanical changes to several existing processes.

March 30, 2012 - Permit No. 01649T50 issued pursuant to Application No. 4200007.11B. The purpose of this application was a significant modification to add one natural gas/distillate fuel-fired boiler with a maximum heat input of 245 million Btu per hour to produce steam for energy generation and provide heat for the pulp and paper processes.

December 21, 2011 - Permit No. 01649T49 issued pursuant to Application No. 4200007.11C. The purpose of this application was a minor modification to add a diesel-fired portable bark grinder with a 1,200 hp maximum rating which will be used to process bark into fuel.

February 21, 2011 - Permit No. 01649T48 issued pursuant to Application No. 4200007.09D. The purpose of this application was a Part 2 MACT “Hammer” application for seven existing boilers.

August 10, 2010 - Permit No. 01649T47 issued pursuant to Application No. 4200007.10B. The purpose of this application was a minor modification to add natural gas to the list of fuels that can be fired in the lime kiln.

June 23, 2010 - Permit No. 01649T46 issued pursuant to Application No. 4200007.10A. The purpose of this application was a minor modification to revise Specific Condition 2.1 M.3 to use specific NOx emission factors for each engine(s) if available, AP-42 otherwise, used by the Porta Chipper (ES-01-PU-014).

November 13, 2009 - Permit No. 01649T45 issued pursuant to Application No. 4200007.09E. The purpose of this application was to administratively correct the annualized BLS firing rate from 547,000 tons per year to 584,000 tons per year.

June 16, 2009 - Permit No. 01649T44 issued pursuant to Application No. 4200007.09C. The purpose of this application was to add the ability to utilize petroleum coke (petcoke) as a fuel for the lime kiln.

February 13, 2009 - Permit No. 01649T43 issued pursuant to Application No. 4200007.09B. The purpose of this application was a minor modification to add the capability to burn ultra-low sulfur (ULS) No. 2 fuel oil with black liquor solids (BLS) as a fuel for the No. 7 recovery furnace.

October 18, 2008 - Permit No. 01649T42 issued pursuant to Application No. 4200007.08A. The purpose of this application was a minor modification for the addition of a portable log chipper.

September 12, 2007 - Permit No. 01649T41 issued pursuant to Application No. 4200007.07B. This application was for an Administrative Amendment to remove the Boiler MACT standard from the Air Permit at the request of the facility. On June 8, 2007, the United States Court of Appeals for the District of Columbia Circuit issued a decision vacating in its entirety and remanding the NESHAP for Industrial, Commercial, and Institutional Boilers and Process Heaters, or Boiler MACT, contained in 40 CFR 63 Subpart DDDDD.

July 23, 2007 - Permit No. 01649T40 issued pursuant to Application No. 4200007.07A. The purpose of this application was to incorporate enforceable conditions pertaining to the emissions and health-related impact of manganese from two distillate and residual-fired boilers and a coal, woodwaste, residual oil-fired boiler.

March 30, 2007 (with an effective date of April 16, 2007) - Permit No. 01649T39 issued pursuant to Application No. 4200007.05C. Although the initial Title V permit (Permit No. 01649T34) was previously issued, it was adjudicated by KapStone. The purpose of this application is to update the initial Title V Permit and add any additional language necessary for emission standards whose compliance dates are subsequent to the initial Title V permit.